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Pisarniško pohištvo - Pisarniški delovni stoli - 2. del: Varnostne zahteve

Office furniture - Office work chair - Part 2: Safety requirements

Büromöbel - Büro-Arbeitsstuhl - Teil 2: Sicherheitsanforderungen

Mobilier de bureau - Sièges de travail de bureau - Partie 2 : Exigences de sécurité

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English Version

Office furniture - Office work chair - Part 2: Safety requirements

Mobilier de bureau - Sièges de travail de bureau - Partie 2 : Exigences de sécurité

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This European Standard was approved by CEN on 15 July 2018.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN 1335-2:2018) has been prepared by Technical Committee CEN/TC 207 “Furniture”, the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2019, and conflicting national standards shall be withdrawn at the latest by May 2019.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 1335-2:2009 and EN 1335-3:2009.

This series consist of following parts:

— EN 1335-1, *Office furniture — Office work chair — Part 1: Dimensions — Determination of dimensions*;

— EN 1335-2, *Office furniture — Office work chair — Part 2: Safety requirements*;

The main changes with respect to the previous edition are listed below:

— take into account test methods from EN 1728 and EN 1022.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

1 Scope

This document specifies safety, strength and durability requirements for office work chairs.

It does not apply to other seating in the office area for which other European Standards exist.

The requirements are based upon use for 8 h a day by persons weighing up to 110 kg.

Annex A (informative) contains loads, masses and cycles for functional tests.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1728:2012 [1], *Furniture – Seating – Test methods for the determination of strength and durability*

EN 1022:2018, *Furniture – Seating – Determination of stability*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
accessible part
part to which access can easily be gained by the user when the chair is in its intended configuration of use and for which the probability of unintentional user contact is high

3.2
shear and squeeze point
point existing if the distance between two accessible parts moving relative to each other is less than 25 mm and more than 8 mm in any position during movement

3.3
overturn
event at which a seating pivots to the point beyond which the chair continues to fall

3.4
castor
assembly comprising a housing, one or more wheels, an axle and, if required, accessories

4 Safety requirements

4.1 General

The chair shall be so designed as to minimise the risk of injury to the user.

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1 As impacted by EN 1728:2012/AC:2013.

All parts of the chair with which the user comes into contact during intended use, shall be so designed that physical injury and damage to property are avoided.

These requirements are fulfilled when:

a) the edges of the seat, back rest and arm rests which are in contact with the user when sitting in the chair are rounded with minimum 2 mm radius;

b) the edges of handles are rounded or chamfered in the direction of the force applied;

c) all other edges and corners are free from burrs and rounded or chamfered;

d) the ends of accessible hollow components are closed or capped.

Movable and adjustable parts shall be designed so that injuries and inadvertent operation are avoided. It shall be possible to operate the adjusting devices from sitting position in the chair.

It shall not be possible for any load bearing part of the chair to come loose unintentionally.

4.2 Shear and squeeze points

4.2.1 Shear and squeeze points under influence of powered mechanisms

There shall be no accessible shear and squeeze points created by parts of the chair operated by powered mechanisms, i.e. springs, gas lifts and motorized systems.

4.2.2 Shear and squeeze points during use

There shall be no accessible shear and squeeze points created by loads applied during normal use. Shear and squeeze points are not acceptable if there is a risk of injury created by the weight of the user during normal movements and actions, e.g. manipulating levers and crank handles.

4.3 Sequence of testing

All applicable tests shall be carried out on the same sample.

The chair shall be tested for stability according to EN 1022:2018, 7.3 and in the order of Table 1.

The chair shall be tested for strength and durability according to EN 1728:2012, Clause 7 and in the order of Table 2.

With the exception of the armrest downward static load test – central test, which shall be performed before and after the stability test according to Table 1, the chair shall be tested for stability after the strength and durability tests according to Table 2.

4.4 Stability tests and requirements

When tested according to Table 1, the seating shall not overturn.

Table 1 — Stability tests and parameters

Tests	Reference	Loads and cycles	Test parameters
1. Corner stability	EN 1022:2018, 7.3.3	Force F1, N Cycle	300 1
2. Forward overturning	EN 1022:2018, 7.3.1	Force F1, N Force F2, N Cycle	600 20 1
3. Forward overturning for chairs with footrests	EN 1022:2018, 7.3.2	Force F1, N Force F2, N Cycle	1100 20 1
4. Sideways overturning for chairs without arm rests	EN 1022:2018, 7.3.4	Force F1, N Force F2, N Cycle	600 20 1
5. Sideways overturning for chairs with arm rests	EN 1022:2018, 7.3.5.1 and 7.3.5.2	Force F1, N Force F2, N Force F3, N Cycle	250 350 20 1
6. Rearwards overturning for chairs without back rest inclination and for chairs with adjustable backrest inclination that can be locked	EN 1022:2018, 7.3.6	Force F1, N Force F2, N Cycle	600 0,2857*(1000-H [a]) 1
7. Rearwards overturning for chairs with back rest inclination	EN 1022:2018, 7.4	Number of Discs Cycle	13 1
[a] H = height of the loaded seat above the floor in millimetres.			

4.5 Structural safety requirements

The structural safety requirements are met when the requirements according to 5.2 are fulfilled.

5 Strength and durability

5.1 General

Table 2 — Test sequence and parameters

Tests	Reference	Loads and cycles	Test parameters
1. Combined seat and back static load test	EN 1728:2012, 7.3	Seat force F1, N Back rest force F2, N Cycles	1600 560 10
2. Seat front edge static load test	EN 1728:2012, 7.4	Force, N Cycles	1600 10
3. Foot rest static load test	EN 1728:2012, 7.8	Force, N Cycles	1300 10
4. Seat and back durability	EN 1728:2012, 7.9	Step 1: Force, N, at point A Cycles Step 2: Force, N, at point C Force, N, at point B Cycles Step 3: Force, N, at point J Force, N, at point E Cycles Step 4: Force, N, at point F Force, N, at point H Cycles Step 5 [a]: Force, N, at point D and G Cycles	 1 500 120 000 1 200 320 80 000 1 200 320 20 000 1 200 320 20 000 1 100 20 000
5. Armrests durability	EN 1728:2012, 7.10	Force, N Cycles	400 60 000
6.1 Armrest downward static load test – central [b]	EN 1728:2012, 7.5	Force, N Cycles	750 5
6.2 Armrest downward static load test – central [c]		Force, N Cycles	900 5

[a] In derogation to EN 1728:2012, 7.2.5 and 7.2.8, the loading point D shall be 150 mm to the right of point A and the loading point G shall be 150 mm to the left of point A.

[b] This test shall be carried out before the stability tests.

[c] This test shall be carried out after the stability tests.